

ATTACHMENT A

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1. (Twice Amended) An object oriented software application system, having an execution environment in which an object-oriented application is deployed as a collection of application objects, each application object having attributes defining properties thereof, the system comprising:

an inspector configured to permit modification of at least one application object in the object-oriented application, for communicating information pertaining to the attributes of the application object while the application object is deployed in the execution environment; and

a document server for maintaining an inventory of objects deployed in the execution environment, the document server providing a user interface to the inspector [method] for communicating with said one application object.

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11. The system of claim 1 wherein said inspector is configured to modify a visual attribute of said object.

12. The system of claim 11 wherein said inspector is configured to modify said visual attribute to be conditionally dependent on a characteristic of the execution environment.

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13. The system of claim 6 wherein the inspector is configured to permit user modification of the application object during execution of the object-oriented application, further comprising means for selectively archiving said application object and adding said application object to said library.

14. The system of claim 1, wherein said inspector is provided in the form of an archive file accessible to the document server.

15. The system of claim 14, wherein said archive file is an XML file.

16. The system of claim 7, further comprising means for selectively storing said object to an archive after it has been modified.

17. The system of claim 7, wherein said inspector is provided in the form of an archive file accessible to the document server.
18. The system of claim 17, wherein said archive file is an XML file.
19. The system of claim 7, wherein said document server selects said inspector on the basis of object attribute information contained within said inventory.
20. The system of claim 19 wherein said inventory comprises an object registry of the execution environment.
21. The system of claim 7 wherein said document server is configured for searching and identifying each object deployed in said environment having a common attribute selected for modification, to allow selective modification of each such object.
22. The system of claim 7 wherein said document server is configured for searching a library of archived objects, and for identifying archived objects having a common attribute selected for modification, to allow selective modification of each such object.
23. The system of claim 7 wherein said document server is further configured for maintaining a history of modifications to provide version tracking of the object.
24. The system of claim 7 wherein said execution environment comprises a register of runtime objects, and wherein said inventory comprises the register, whereby the document server accesses the register to provide means for selecting the inspector corresponding to the runtime object.
25. The system of claim 19 wherein the inspector communicates with the runtime object via a network communication protocol.
26. The system of claim 25 wherein said protocol comprises one of CORBA, COM, RPC and DDE.

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27. In an object oriented software system of a type having an execution environment and a de-archiver configured to access and launch executable objects into the execution environment on the basis of an object document, an improvement comprising:
- a document server process configured for accessing a registry of executable objects launched into the execution environment;
 - a plurality of inspector documents each comprising an archived inspector configured to alter an attribute of an executable object; and
 - the document server process having user-operable means for deploying an inspector into the execution environment based upon user selection of a selected executable object, the document server process configured to deploy said inspector on the basis of the registry and a corresponding archived inspector.
28. The improvement of claim 27, wherein said inspector is configured to alter a method of said selected executable object while said executable object continues to operate in the execution environment.
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29. The improvement of claim 27, wherein said inspector is configured to alter an attribute of said selected executable object while said executable object continues to operate in the execution environment.
30. The improvement of claim 29, wherein said attribute is a visual attribute of said selected executable object.
31. The improvement of claim 29, wherein said attribute is an operational attribute of said selected executable object.
32. The improvement of claim 31, wherein said attribute is a menu item associated with said selected executable object.
33. The improvement of claim 27, wherein said document server is configured to allow selection and addition of objects to an application, whereby the application may be constructed in said execution environment.

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34. The improvement of claim 29, wherein said inspector is configured to communicate with said executable object.
35. The improvement of claim 34 wherein said executable object is configured to comprise a communication method for receiving configuration data defining operational behavior of the object, and wherein said inspector is configured to transmit configuration data via said communication method.
36. The improvement of claim 27 wherein said document server process is deployed upon a server comprising a network connection with said execution environment, and wherein said inspector is configured to communicate with said object via a network communication protocol.
37. The improvement of claim 36 wherein said network communication protocol comprises one of CORBA, COM, RPC and DDE.
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38. The improvement of claim 27 wherein said inspector documents comprise alternative archived inspectors corresponding to an executable object, and wherein said document server process is configured to select among said alternative archived inspectors according to an operating system of the execution environment.
39. The improvement of claim 38, wherein said inspector documents comprise a generic inspector document configured to determine attributes of an executable object and to provide a user interface for altering said attributes.
40. The improvement of claim 27 wherein said inspector documents are stored as ASCII files.
41. The improvement of claim 40 wherein said inspector documents are stored as XML files.
42. A method of altering and deploying an object oriented application comprising a

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plurality of application objects, comprising:

deploying said application in a first execution environment;
providing, in the first execution environment, selection means for selecting an inspector configured for modification of a corresponding application object;
deploying said inspector in said first execution environment;
operating said inspector to modify the application object;
archiving said application, including the modified application object; and deploying said application in a second execution environment independent of said document server means.

43. The method of claim 42 wherein said step of operating said inspector is performed while the application executes within the first execution environment.

44. The method of claim 42 wherein said first and second execution environment comprise respective different operating systems.

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45. The method of claim 44 wherein said step of deploying said application in the second execution environment comprises transmitting said application via a computer network.

46. The method of claim 45 wherein said second execution environment comprises a web browser.

47. The method of claim 45, further comprising the step of providing a library of objects for selectively adding objects from the library to the application.

48. The method of claim 47, further comprising the step of selectively archiving the modified application object and adding the modified application object to the library.

49. A method of modifying an object oriented application comprising a plurality of application objects, comprising the steps of:

deploying said application in an execution environment;
operating said application;

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deploying an inspector within said execution environment, wherein said inspector is configured to communicate with an application object for the purpose of transmitting modification information to said object during execution;

operating said inspector to transmit modification information to said object; and continuing to operate said application during modification of said object.

50. The method of claim 49, further comprising the steps of:
saving said application, including said modified object, in an archive; and re-deploying said application in a second execution environment.

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51. The method of claim 49, further comprising the step of selectively saving said object to an archive after it has been modified.

52. The method of claim 51, further comprising the step of providing a library of objects for selective addition to the application.

53. The method of claim 52, wherein the step of selectively saving said object comprises the step of adding said object to the library.

54. The method of claim 50 wherein said step of saving said modified object comprises the step of saving said modified object as an XML archive document.

ATTACHMENT B

1. (Twice Amended) An object oriented software application system, having an execution environment in which an object-oriented application is deployed as a collection of application objects, each application object having attributes defining properties thereof, the system comprising:

an inspector configured to permit modification of at least one application object in the object-oriented application, for communicating information pertaining to the attributes of the application object while the application object is deployed in the execution environment; and

a document server for maintaining an inventory of objects deployed in the execution environment, the document server providing a user interface to the inspector for communicating with said one application object.

2. The system of claim 1 wherein the document server is configured to actuate the inspector, and wherein the inspector is configured to generate a display of attributes defining the object.

3. The system of claim 2 wherein the inspector is configured to allow user modification of the attributes shown in the display and to apply such modification to the attributes of the application object in the memory of the execution environment.

4. The system of claim 1 wherein the inspector is configured to permit user modification of the application object during execution of the object-oriented application.

5. The system of claim 1 wherein the document server is configured to maintain an inventory of objects deployed in the execution environment, and to retrieve and instantiate a corresponding inspector for a deployed object desired to be modified.

6. The system of claim 1 further comprising a library of objects accessible to the document server, for permitting addition of objects from the library to the object-oriented application.

7. An object oriented software modification system for use in an execution environment, comprising:

at least one inspector, adapted to communicate with at least one runtime object in the execution environment, for communicating and altering attribute information associated with the runtime object while the runtime object is deployed in the execution environment; and

a document server for accessing an inventory of runtime objects deployed in the execution environment, and configured for selecting said one inspector for deployment in the execution environment, whereby attributes of said runtime object can be selectively modified by operation of the inspector while the runtime object is deployed in the execution environment.

8. The system of claim 7, wherein the inspector is configured to generate a display of modifiable attributes of the runtime object.
9. The system of claim 7, further comprising means for archiving the runtime object after it has been modified.
10. The system of claim 7 wherein the execution environment comprises a web browser.
11. The system of claim 1 wherein said inspector is configured to modify a visual attribute of said object.
12. The system of claim 11 wherein said inspector is configured to modify said visual attribute to be conditionally dependent on a characteristic of the execution environment.
13. The system of claim 6 wherein the inspector is configured to permit user modification of the application object during execution of the object-oriented application, further comprising means for selectively archiving said application object and adding said application object to said library.
14. The system of claim 1, wherein said inspector is provided in the form of an archive file accessible to the document server.
15. The system of claim 14, wherein said archive file is an XML file.

16. The system of claim 7, further comprising means for selectively storing said object to an archive after it has been modified.
17. The system of claim 7, wherein said inspector is provided in the form of an archive file accessible to the document server.
18. The system of claim 17, wherein said archive file is an XML file.
19. The system of claim 7, wherein said document server selects said inspector on the basis of object attribute information contained within said inventory.
20. The system of claim 19 wherein said inventory comprises an object registry of the execution environment.
21. The system of claim 7 wherein said document server is configured for searching and identifying each object deployed in said environment having a common attribute selected for modification, to allow selective modification of each such object.
22. The system of claim 7 wherein said document server is configured for searching a library of archived objects, and for identifying archived objects having a common attribute selected for modification, to allow selective modification of each such object.
23. The system of claim 7 wherein said document server is further configured for maintaining a history of modifications to provide version tracking of the object.
24. The system of claim 7 wherein said execution environment comprises a register of runtime objects, and wherein said inventory comprises the register, whereby the document server accesses the register to provide means for selecting the inspector corresponding to the runtime object.
25. The system of claim 19 wherein the inspector communicates with the runtime object via a network communication protocol.

26. The system of claim 25 wherein said protocol comprises one of CORBA, COM, RPC and DDE.

27. In an object oriented software system of a type having an execution environment and a de-archiver configured to access and launch executable objects into the execution environment on the basis of an object document, an improvement comprising:

a document server process configured for accessing a registry of executable objects launched into the execution environment;

a plurality of inspector documents each comprising an archived inspector configured to alter an attribute of an executable object; and

the document server process having user-operable means for deploying an inspector into the execution environment based upon user selection of a selected executable object, the document server process configured to deploy said inspector on the basis of the registry and a corresponding archived inspector.

28. The improvement of claim 27, wherein said inspector is configured to alter a method of said selected executable object while said executable object continues to operate in the execution environment.

29. The improvement of claim 27, wherein said inspector is configured to alter an attribute of said selected executable object while said executable object continues to operate in the execution environment.

30. The improvement of claim 29, wherein said attribute is a visual attribute of said selected executable object.

31. The improvement of claim 29, wherein said attribute is an operational attribute of said selected executable object.

32. The improvement of claim 31, wherein said attribute is a menu item associated with said selected executable object.

33. The improvement of claim 27, wherein said document server is configured to allow selection and addition of objects to an application, whereby the application may be constructed in said execution environment.
34. The improvement of claim 29, wherein said inspector is configured to communicate with said executable object.
35. The improvement of claim 34 wherein said executable object is configured to comprise a communication method for receiving configuration data defining operational behavior of the object, and wherein said inspector is configured to transmit configuration data via said communication method.
36. The improvement of claim 27 wherein said document server process is deployed upon a server comprising a network connection with said execution environment, and wherein said inspector is configured to communicate with said object via a network communication protocol.
37. The improvement of claim 36 wherein said network communication protocol comprises one of CORBA, COM, RPC and DDE.
38. The improvement of claim 27 wherein said inspector documents comprise alternative archived inspectors corresponding to an executable object, and wherein said document server process is configured to select among said alternative archived inspectors according to an operating system of the execution environment.
39. The improvement of claim 38, wherein said inspector documents comprise a generic inspector document configured to determine attributes of an executable object and to provide a user interface for altering said attributes.
40. The improvement of claim 27 wherein said inspector documents are stored as ASCII files.

41. The improvement of claim 40 wherein said inspector documents are stored as XML files.
42. A method of altering and deploying an object oriented application comprising a plurality of application objects, comprising:
 deploying said application in a first execution environment;
 providing, in the first execution environment, selection means for selecting an inspector configured for modification of a corresponding application object;
 deploying said inspector in said first execution environment;
 operating said inspector to modify the application object;
 archiving said application, including the modified application object; and deploying said application in a second execution environment independent of said document server means.
43. The method of claim 42 wherein said step of operating said inspector is performed while the application executes within the first execution environment.
44. The method of claim 42 wherein said first and second execution environment comprise respective different operating systems.
45. The method of claim 44 wherein said step of deploying said application in the second execution environment comprises transmitting said application via a computer network.
46. The method of claim 45 wherein said second execution environment comprises a web browser.
47. The method of claim 45, further comprising the step of providing a library of objects for selectively adding objects from the library to the application.
48. The method of claim 47, further comprising the step of selectively archiving the modified application object and adding the modified application object to the library.

49. A method of modifying an object oriented application comprising a plurality of application objects, comprising the steps of:
- deploying said application in an execution environment;
 - operating said application;
 - deploying an inspector within said execution environment, wherein said inspector is configured to communicate with an application object for the purpose of transmitting modification information to said object during execution;
 - operating said inspector to transmit modification information to said object; and
 - continuing to operate said application during modification of said object.
50. The method of claim 49, further comprising the steps of:
- saving said application, including said modified object, in an archive; and
 - re-deploying said application in a second execution environment.
51. The method of claim 49, further comprising the step of selectively saving said object to an archive after it has been modified.
52. The method of claim 51, further comprising the step of providing a library of objects for selective addition to the application.
53. The method of claim 52, wherein the step of selectively saving said object comprises the step of adding said object to the library.
54. The method of claim 50 wherein said step of saving said modified object comprises the step of saving said modified object as an XML archive document.